

Compliance Assessment Report CAR_NRW0048142

Permit being assessed: AN0236801

For: MAENDY QUARRY UPPER CHURCH VIL, held by VEOLIA ES CLEANAWAY (UK) LTD

At: MAENDY QUARRY, UPPER CHURCH VILLAGE, RHONDDA CYNON TAFF, WALES, CF37 1PS.

Type of assessment carried out: Report/Data Review, Reason: Other.

On 20/03/2025.

Parts of permit assessed: condition 2.4.1

NRW Lead Officer: Natalie Wrangham.

Report sent to: Mark Langabeer, General Manager, on 10/07/2025.

1. Summary of our findings (full details in section 4)

Part of permitted activity assessed (criteria)	Assessment result	Permit condition
WQ-B4 - Water Quality - Operations - Improvement programme	Assessed (A)	

Result types are explained in more detail in the 'Important Information' section below.

2. What action is required?

No action required.

3. What will happen next?

Any non-compliance we have identified and recorded on this form is an offence. It can result in criminal prosecution and/or suspension or revocation of your permit.

At this time, we do not intend to take any further action.

This statement does not stop us from taking additional enforcement action if further relevant information comes to light or offences continue.

4. Details of our assessment

Overview

The water discharge from Maendy Quarry is permitted by EPR permit AN0236801 which permits effluent from the site to be discharged into tributaries of the Nant Ty'r allwydd, near Church Village.

Condition 2.4.1 of the permit requires the operator to complete the improvement conditions set out in schedule 1 table S1.3. This review of monitoring data and the restoration scheme

by Veolia was carried out to meet IC4 :

Operator to submit report to NRW reviewing monitoring data and make recommendations for improvement works if required. The report shall also review the compliance limits, parameters and monitoring frequencies, 2 years from completion of the commissioning of the works carried out in accordance with IC3.

The restoration works, including the installation of the wetland treatment area, was completed in December 2022. Confirmation of acceptance of completion of IC3 was sent to the Operator from NRW on 11/01/2023. CAR_NRW0042490 stated a submission date of 11/01/2025 for the IC4 review. *IC4 - Review of Monitoring Data and the Restoration Scheme dated January 2025* was submitted by the operator to NRW on 17/01/2025.

NRW comments on report

For ease of reference the comments have been divided into the sections set out in the report.

2.1 – Flow – Appendix A: Hydrographs

- The hydrographs generally show peaks in discharge flow at times of high rainfall event, or shortly after, although there are some high rainfall events prior to completion of restoration which have not recorded a corresponding increase in discharge flow, and peaks in discharge flow which do not appear to correspond with rainfall. There is little to no discussion about these readings and circumstances which explain these events. We would like to have seen any erroneous data or data which does not fit a trend discussed more in the review.
- Reductions in flow at MAE002 drastically fall some 7 months prior to the completion of the wetland, with flows at MAE001 increasing slightly during the same time frame – did pumping from the western quarry to the eastern quarry begin prior to the finalisation of the restoration?
- Post restoration discharge flows do not follow rainfall intensity, but do follow general peaks. *‘The volumes of site drainage at MAE001 have reduced in relation to peak flows, and at MAE002 the discharge has reduced, which is anticipated to be due to the additional storage provided by the measures installed prior to each discharge’* and *‘The increased storage capacity in the wetland restoration area appears to be accommodating some of the fluctuations in site drainage’*. What is the estimated storage capacity of the wetland? Has the attenuation time of the soakaway and wetland been calculated? Is it possible that water is being lost to ground?

2.2 Quality compliance with table S3.1 of the permit

- *‘The results of the monitoring undertaken in accordance with Table S3.1 of the Permit at the site show that since the variation of the Permit in 2018 toluene, phenol (total mono) and COD have been consistently measured below the respective permit limits at MAE001 and MAE002.’* NRW confirm that the water quality returns data submitted by the Operator support this, noting that the condition for the water quality parameters in Table S3.1 states under the column labelled limit of effective range – *‘Calculated as an average of any 12 consecutive samples randomly taken at monthly intervals’* and under the column heading for compliance statistic – *‘Mean, See Table S4.1’*. Therefore whilst some of the peaks in the data displayed by Figures 1-8 are above the permitted limit, the average will be within the permitted limits. The concentration

of phenols displayed in figures 3 and 4 show the highest variability in all the results, but then show a drastic reduction post restoration with very small peaks. There is a very large spike in the COD concentration between May and July 2016 at MAE001 which should be discussed in more detail. Is this an anomalous reading or does this point to something happening at that time?

2.3 Quality and Loading Assessment

- *'No background quality data has been collected throughout the period before and after implementation of the restoration work. It is intended that a location in the surface water network is established where additional data will be acquired for comparison purposes.'* Why did Veolia choose not to gather background data to support this review?
- Appendix B – Graphical summary of the quality of the site drainage. We would have preferred a more robust discussion surrounding the monitoring data shown in the graphs, and in the tables of this section.
- *BTEX quality at MAE001:* The graph shows a decline in spikes of Toluene after the restoration, but an increase in xylene, including a large spike at October 2023. Is the reason for this known? Has any investigation been carried out? The type of Xylene also appears to change in concentration post restoration. A similar but smaller increase in Xylene is also seen at MAE002 post restoration.
- *Metals quality at MAE001 and MAE002* - Zinc appears to be quite variable at both discharge points with some high spikes, which in the main, do not line up with the same time periods at each discharge location. Some discussion on these spikes would have been useful. Unclear at this point whether the restoration has impacted on this parameter.
- *Chlorinated solvents quality at MAE001 and MAE002:* Concentrations of cis-1,2-Dichloroethane and 1,1-Dichloroethane appear to have increased at MAE001 since the completion of the restoration. Has this been investigated for any potential explanation? Vinyl chloride still appears to be following the same trend as pre-restoration at MAE001, but appears to have declined at MAE002. Chloroethane which had a large spike in concentration between September 2015 and May 2017 appears to have flattened out, whereas cis-1,2-Dichloroethane and 1,1-Dichloroethane continue to vary widely. Has there been any consideration as to a reason for these peaks and flat line?
- *Organic solvents quality at MAE001 and MAE002:* Post restoration there is a large spike in 1,2,4-Trimethylbenzene and 1,3,5-Trimethylbenzene at MAE001, where as large spikes in these chemicals seen at MAE002 appear to have generally decreased overtime. More discussion on potential reasons for this would have been useful.
- *Aromatic chlorinated solvents quality at MAE001 and MAE002:* General trend at both points sees a large decrease in Chlorobenzene after the completion of the restoration.
- *Phenols (total mono) quality at MAE001 and MAE002:* A large decrease in the concentration of monohydric phenols measured at both discharges is shown post restoration.
- *Ammoniacal nitrogen, Chloride and COD quality at MAE001 and MAE002:* Both graphs show a general trend of decrease in concentration over time, with a more noticeable reduction post restoration. COD concentration remains higher at MAE002, whereas more fluctuation in all 3 parameters is seen at MAE001 with ammoniacal nitrogen reaching just below 2 mg/l in July 2023 and just under 1.5mg/l in July 2024. This is however an improvement on the approximately 3.8mg/l seen in July 2022 pre-

restoration. The trend for ammoniacal nitrogen at this point appears to show spikes in concentration in the summer months, possibly as a result of reduced dilution, however this trend is not evident at MAE002 where the spikes in ammoniacal nitrogen appear to have little seasonal pattern. Chloride appears to show the same trend as for ammoniacal nitrogen at MAE001, but not at MAE002.

- PCB congeners were monitored on 7 occasions with none detected in the discharges following completion of the restoration scheme. Please confirm the units of measurement for this – not given in report. Has there been any sediment testing for PCBs at the discharge points? We note that there are 2 missing dates for PCB 156 test results on 29/04 and 22/07. What was the reason for this?

2.3.2 (2.2.2) Loading Calculations and 2.3.3 (2.2.3) Review of water quality data and loading calculations

- *'Many of the metals (arsenic, cadmium, chromium, copper, lead and mercury) were recorded at low concentrations – typically less than 25µg/l. Iron and Zinc show higher and more variable concentrations, with iron naturally present in the water network surrounding the site'* Do you have data to show background levels of naturally occurring iron within the water network surrounding the site? Is this in the groundwater, or surface water (or both)?

There are a number of substances in the discharge effluent which are above the Environmental Quality Standards (EQS) (average) as set out in The Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015 for pollutants and priority substances at one or both of the discharge points. NRW would like to consider these for monitoring. These are:

- Zinc
- Benzene
- Mercury (max allowable)
- Naphthalene
- Nickel
- Pentachlorophenol
- Trichlorobenzenes (all forms)
- Ammoniacal Nitrogen
- Xylene

Also of note which NRW would like to consider for monitoring due to the fluctuations in concentration and / or being close in concentration to the EQS are:

- Copper
- Cadmium
- 1,2-Dichloroethane

NRW acknowledge that the EQS standards are applicable to water quality in the watercourse, not the effluent. However, the watercourse the discharge enters has very little flow, and is dependent on water runoff, usually from rainfall. Therefore there are periods of time where the dilution capacity of the watercourse will be impacted depending on the concentration of the effluent discharging into it. Where the chemicals in the discharge are much higher than the AA-EQS, we believe it is fair to have concerns that the watercourse

will not be able to adequately dilute the contaminants within the discharge, and therefore further considerations should be made.

5.0 Recommendations

Along with the recommendations suggested by Veolia, which NRW agree would be beneficial, we also propose the following:

- We would like the Operator to carry out an investigation as to the efficacy of the treatment wetland by sampling leachate prior to treatment.
- We would like to understand what the current loss through the system is.
- We would like investigations to determine whether there has been an impact on groundwater from the water treatment area, stone drainage channel, treatment wetland (if unlined) and discharge to marshy area.
- We would like to see improvements to the discharge of effluent at MAE001 being piped directly from the treatment wetland to the permitted discharge location.
- We would like the additional monitoring of substances identified by Veolia in section 3.4, and the substances highlighted by NRW in sections 2.3.2 and 2.3.3 above to be included in a robust monitoring plan and to be included in the permitted parameters as part of a permit review.

NRW look forward to discussing the above points with Veolia and working with Veolia to implement the recommended actions.

If you have any queries regarding this CAR form or to provide an update on any actions above, please contact me using the following email address:

cwmnaf&bridgendconsultations@cyfoethnaturiolcymru.gov.uk

Alterations made on 10/07/2025

- Xylene EQS acknowledged as 30ug/l (annual average) which the report shows has been exceed.
- Removal of term 'treatment soakaway'. Changed to refer to 'water treatment area' and 'stone drainage channel' as referred to in 2022 conceptual model.

If you have any queries about this report, or to discuss completion of any actions, please contact the NRW Officer named above.

Important information

Legal status of this report

Your permit is issued to you under the Environmental Permitting Regulations. You have a responsibility to comply with the conditions of your permit and prevent pollution/harm to the environment. You must also ensure that you comply with any other relevant legislation that may apply to your site's operations.

This report explains the findings of our assessment and any action you are required to take. We categorise non-compliance using our guidance for assessing non-compliance at regulated sites.

When we find potential non-compliance/s we will normally give you advice on how to maintain compliance.

To correct non-compliance, we may:

- require you to take specific actions
- issue a notice
- review the conditions of your permit.

Any advice and guidance we give will be without prejudice to any other enforcement response that we consider may be required.

Assessment results and non-compliance categories (used in section 1):

Assessment result	Description
Assessed (A)	Assessed or assessed in part, no evidence of non-compliance found
Action only (X)	Action only relating to the activity assessment
Ongoing (O)	Ongoing non-compliance, not scored

Non-compliance category	Description
C1 Major	Potential to have a major, serious, persistent and/or extensive impact or effect on the environment, people and/or property
C2 Significant	Potential to have a significant impact or effect on the environment, people and/or property
C3 Minor	Potential to have a minor or minimal impact or effect on the environment, people and/or property
C4 No environmental impact	Non-compliance at a regulated site that cannot foreseeably have any impact on the environment, people and/or property

If your assessment result in Section 1 is suspended, what does this mean?

In line with our guidance, we may suspend non-compliance for up to six months to allow time for remedial action to be taken. These will be re-instated if the action is not completed.

Full list of water quality action criteria (used in section 1 and 2):**WQ A: Management**

- WQ-A1 General management

WQ B: Operations

- WQ-B1 Permitted activities
- WQ-B2 The site
- WQ-B3 Operating techniques
- WQ-B4 Improvement programme
- WQ-B5 Pre-operational conditions

WQ C: Emissions and monitoring

- WQ-C1 Emissions to water
- WQ-C2 Emissions to land
- WQ-C3 Emissions of substances not controlled by emission limits
- WQ-C4 Installation of monitoring boreholes

WQ D: Information

- WQ-D1 Records
- WQ-D2 Reporting
- WQ-D3 Notifications

Enforcement response

Any permit condition non-compliance is an offence and we may take legal action against you. Action we take can include prosecution, serving a notice on you and/or suspension or revocation of your permit. See our Enforcement and Sanctions Guidance for further information.

Data protection notice

You should make sure that anyone named in this report knows that the information it contains will be processed by Natural Resources Wales to fulfil its regulatory and monitoring functions and to maintain the relevant public register(s).

We may also use and/or disclose the report in connection with:

- offering or providing you with our literature or services relating to environmental matters
- consulting with the public, public bodies and other organisations (e.g. Health and Safety Executive, local authorities) on environmental issues
- carrying out statistical analysis, research and development on environmental issues
- providing public register information to enquirers
- investigating possible breaches of environmental law
- assessing customer service satisfaction and improving our service
- Freedom of Information Act or Environmental Information Regulations requests.

We may also pass it on to our agents or representatives to do these things on our behalf.

Disclosure of information – this report will be available to view on-line

If you think this report contains commercially confidential information that should not be placed on our public register, you must contact your local Natural Resources Wales office within **fifteen working days** of receiving this report, using the contact details in the accompanying email or letter. You must give a full explanation of why it should not be

added to our public register, including specifying which information is commercially confidential. We will assess your request and respond to you within 20 working days to let you know if we agree to your request.

What do I do if I disagree with the report or have a complaint?

If you disagree with this compliance assessment report, you should contact the lead officer without delay to discuss your concerns.

If you are unable to resolve the issue with the lead officer or their line manager you should contact our Customer Contact team on 0300 065 3000 (Monday to Friday 08:00 – 18:00), or email enquiries@naturalresourceswales.gov.uk for details of how to raise your dispute further through our Complaints and Commendations procedure.

If you are dissatisfied with our response, you can contact the Public Services Ombudsman for Wales by phone on 0300 7900203 or by email at ask@ombudsman.wales

Welsh Language Standards

We are committed to establishing Natural Resources Wales as a naturally bilingual organisation. We will provide compliance reports in your preferred language.